

Twenty-Eighth Volume—From January, 1935, to December, 1935

# General Index

{Illustrated articles are indicated thus\*. Editorials are indicated thus †}

<b>A</b>				<b>C</b>	
A-c. Primary Power Supply:		Automatic Electric Company:		Bushings:	
Auto-flag signals on C. R. of N. J..	*523	Flasher relay for crossing signals	*267	Insulating	*156
A-c.-D-c. Test Set:		Improved testing set	*267	<b>C</b>	
Portable	*588	Wall telephone	*596	Cab Signaling:	
Accidents:		Automatic Crossing Gates, Inc.:		Lehigh Valley	469
At automatic plant of C. R. I. & P.		To manufacture and sell crossing		Cable:	
and M. & St. L.	475	gates	548	Aerial installed at bridge on N. Y. C.	*529
Boston & Maine	83	Automatic Interlockings:		Aerial versus open line	542
Joint committee report on crossing		See Interlocking, Automatic		Bootleg outlet for	*89
protection	530	Automatic OSing Devices:		Method of handling	*484
Call-On signals involved in	314	Used by the Rock Island	*263	Parkway to light signals	46
Caused by broken rail	36	Automatic Signaling:		Cable Connections:	
C. & O. at Warren, Va.	684	Poles lines for	†265	To switch machines	*94
Collision between Pennsylvania &		Automatic Train Control:		Cable Sheaths:	
W. & L. E.	586	See Train Control		Grounding	222
Collision on Erie	432	Auto-stop:		Canadian National:	
Collision on Monon	72	Installed on C. & N. W.	*307	Collision at Dundas, Ont.	50
Collision on M-K-T	517	Iowa commission approves	388	Canadian Pacific:	
Collision on T. & P.	483	<b>B</b>			Mechanical plant replaced by elec-
Crossing analyzed	224	Baltimore & Ohio:		tric interlocking	*623
Crossing in Iowa	188	Rear-end collision	255	Capacitors:	
Crossing in Pennsylvania	215	Batteries:		For signal power lines	†88
Disastrous collision at Dundas, Ont.	50	Analysis to determine benefits in		Low-voltage for power-factor cor-	
Disastrous collision in Russia	102	saving of primary	*78	rection	*135
Florida East Coast at drawbridge	260	Edison heavy-duty	*154	Used on C. & N. W.	*81
Head-on collision at Indianapolis,		Edison primary cell	*37	Capacitor Units:	
Ind.	206	Heavy duty	*644	General Electric Company	*158
Lagny collision	170	Modern track relays lengthen pri-		Cells: See Primary and Storage	
N. Y., N. H. & H. at Westport,		mary life	*298	Central Railroad of New Jersey:	
Conn.	640	Primary costs being reduced on	*463	A-C. primary power supply for	
Northern Pacific near Welland,		Primary in cold weather	384	auto-flag signals	*523
Wash.	658	Storage trays	47	Centralized Traffic Control:	
Number of persons killed in May	494	Battery Replacements:		Boston & Maine	477
Rear-end collision on B. & O.	255	Storage	538	Canadian Pacific at Delson, Que.	*623
Rock slide derails train on		Bells:		C. & O. at Clifton Forge, Va.	*869
D. & R. G. W.	658	Accessory highway crossing protec-		Installed on P. & L. E.	*626
Truck derails passenger train	593	tion	†592	On Texas & Pacific	*132
Adjustments:		Crossing at flasher signals	596, 656	Power-off lights at machines	218
F. P. L. on spring switches	47	Bell Telephone Laboratories:		Centralized Traffic Control Units:	
Aerial Cable:		Telephone for outdoor service	*485	Test board for	*207
Installed at bridge on N. Y. C. at		Bethlehem Steel Company:		Chesapeake & Ohio:	
Albany	*529	New process for producing zinc-		C. T. C. at Clifton Forge, Va.	*869
Versus open line	542	coated wires	*89	Engineman asleep causes collision	634
All-Relay Interlocking:		Biddle, James G. Company:		Chicago, Burlington & Quincy:	
Western Indiana installs	*420	New pocket manual of "Megger"		Signaling destroyed by floods in	
Alton:		practice	388	Nebraska	*358
Semi-automatic interlocking at cross-		Board of Railroad Commissioners of		Twin Zephyrs ready for service in	
ing	*356	Iowa:		April	226
American Automatic Electric Sales Co.:		Approves auto-stop	388	Chicago Great Western:	
See Automatic Electric Company		Bolts:		Constructs automatic interlocking	
American Society for Testing Materials:		Lock washer for	*319	at Wilkinson, Ill.	*625
Materials standards index	102	Bond Wires:		Spring switch replaces mechanical	
Anaconda Wire and Cable Company:		Bender	*214	interlocking	*530
Wire sleeve and roller	*89	Installation of	42, 94	Chicago, Indianapolis & Louisville:	
Aspects: See Flashing and Multiple		Locating defective	*319	Collision near Jordan, Ind.	72
Aspects		Re-use of plug-type	324	Chicago & North Western:	
Association of American Railroads:		Bonding:		Auto-stop installed on	*307
Cultivate safety mindedness	102	Chisel for	*534	Capacitors used on	*81
New chapter issued by signal sec-		Booster Transformers:		Crossing signals on	*31
tion	170	On signal lines	544	Signaling on route of "400"	*573
Number of persons killed month of		Bootlegs:		Stopping distance and signal spacing	*571
May	494	Assembly	*214	Chicago Rapid Transit Company:	
Safety lecture for December	660	Bootleg Outlet:		New interlocking in Chicago loop	*84
Signal section convenes in Chicago	*139	For cable	*89	Signal and relay repair shop	*417
Telegraph and telephone section		Boston & Maine:		Chicago, Rock Island & Pacific:	
meeting	380	Accident on	83	Accident at automatic plant with	
The convention in retrospect	†151	Combination of interlockings	*582	M. & St. L.	475
Atchison, Topeka & Santa Fe:		Construction	102	Automatic OSing devices used by	*263
Accepts delivery of Diesel	546	Interlockings combined on	*631	Chicago & Western Indiana:	
Automatic interlockings involving		Modern signal aspects on	*365	All-relay interlocking	*420
spring switches	*472	Signaling at Waltham, Mass.	*477	Construction	170
Electric interlocking at Amarillo,		Radio message on crossing safety	47	Chisels:	
Tex.	*515	Signal construction program	*410	For bonding	*534
Electric plant at Riverside, Cal.	*23	Braces:		Circuits:	
Interlocking involves highway cross-		Wrench for rail	*433	For crossing signals	440
ing signals	*305	Brackets:		For flashing light signals	380, 492
Primary battery costs being re-		Portable relay	*533	Circuit Controllers:	
duced	*463	Braking Distance:		Inspecting switch	492
Signal repair shop at San Bernard-		For high speeds	573	City of New York:	
dino, Cal.	*353	With signals	*326	Construction	388
Atlantic Coast Line:		Break-Arms:		Code Control on C. & O.	372
Crossing signals in Florida	*129	Substitute	*484	Coded Control:	
Employees promote public relations		Bridge:		Track Circuit	*157
work	278	Rail-end checking	191	Coded Track-Circuit Signaling:	
Standardization of plans for cross-		Broken Rails:		On Pennsylvania	*245
ing signals	*590	Locating	*268	Coder:	
Automatic Block Signals:		Brooklyn-Manhattan Transit:		Stand-by for TK relays	*319
Respacing on Pennsylvania	*196	Automatic interlocking	*25	Collisions:	
		Bureau of Public Roads:		See Accidents	
		Wig-wags approved for projects	36		

6-20-36 EB

- Combination Tool:  
For signalman ..... \*594
- Commutators:  
Avoiding frost on ..... 274
- Conductor Data:  
General Cable Corp. booklet ..... 548
- Conductor Terminal:  
Wedge-on ..... \*485
- Cone Clutch Tool:  
For T-2 signal ..... \*533
- Connections:  
Cable to switch machines ..... \*94
- Construction:  
Signaling hits new low in 1934 ..... \*17
- Construction Programs:  
Signal on Boston & Maine ..... \*410
- Continental-Diamond Fibre Co.:  
Published booklet, Dilecto ..... 548
- Controllers:  
Inspecting switch circuit ..... 442, 492
- Conventions:  
Signal section, A. A. R., in retrospect ..... †151  
Signal section convenes in Chicago ..... \*139
- Cranks and Jaws:  
Measuring the set in ..... \*643
- Crossing Bells:  
At flasher signals ..... 596, 656  
See also Bells.
- Crossing Protection:  
Accidents in Pennsylvania ..... 215  
Auto-stop on C. & N. W. .... \*307  
Bells as accessory ..... †592  
Hope revived for Federal program ..... †531  
Joint committee report on ..... 530  
Omission of bells ..... 213  
Situation ..... 212  
With Federal funds ..... †373
- Crossing Protection Program:  
Federal ..... †431
- Crossing Safety:  
Radio message on ..... 47
- Crossing Signals:  
A. C. L. in Florida ..... \*129  
Aligning flashers ..... \*596  
Automatic interlocking involves ..... \*305  
Bells at ..... 596, 656  
Circuits for ..... 440  
Circuit for flashing light ..... 380, \*492  
Crossing on C. & N. W. .... \*31  
False operation of ..... \*98, \*166  
Federal NIRA program ..... 330  
Flasher relay for ..... \*267  
L-G. N. .... \*200  
Improved test box for ..... \*376  
Installed at Federal expense ..... †151  
Iowa commission adopts uniform ..... 83  
Maine commission approves ..... 102  
On Southern ..... \*131  
Power supply for auto-flag on C. R. of N. J. .... \*523  
Preventing unnecessary operation of ..... †641  
On Seaboard in Carolina ..... \*127  
Reading tests battery standby ..... 359  
Selective control ..... †88  
Selective speed control ..... \*67  
Special control for house track ..... 129  
Standardization of circuit plans ..... \*590  
Street protection on N. P. .... \*203  
Test equipment for ..... \*159  
Traffic type for highway railroad crossings ..... †35  
Traffic type in El Paso ..... \*253  
Traffic-type crossing on T. & N. O. .... \*29  
Virginia approves flashing light ..... 226  
Wig-wags approved for P. W. A. projects ..... 36
- D**
- Delaware, Lackawana & Western:  
Call-on signal involved in accident ..... 314
- Delaware River Joint Commission:  
Construction ..... 388
- Denver & Rio Grande Western:  
Rock slide derails train ..... 653
- Diesel Locomotives:  
Santa Fe accepts delivery of ..... 546
- Drawbridges:  
Checking rail ends on ..... 199, †211
- Dust Storms:  
Signaling in ..... 320
- E**
- Edison, Thomas A., Inc.:  
Heavy-duty cell ..... \*154  
Primary cell ..... \*37
- Electric Soldering Iron:  
Tip for ..... 90
- Electric Speedometer:  
For locomotives ..... \*376
- Electric Storage Battery Company:  
Edition on American railroad signals ..... 330  
Float meter ..... \*155  
General catalogue Exide batteries ..... 548
- Electric Timer:  
Accurate timing apparatus ..... \*90
- Electro-Motive Corporation:  
Construction ..... 496
- Emergency Relief Appropriation:  
Allotments for grade crossing protection ..... 330
- Engineering Inspections ..... †531
- English Signaling:  
25-Year review of ..... 639
- Erie:  
Collision ..... 432
- Signals increase track capacity and safety ..... \*300
- Exide Batteries:  
Electric Storage Battery Co. catalogue ..... 548
- Exploring Coil:  
Shielding ..... \*266
- F**
- Facing-Point Locks:  
Adjustment on spring switches ..... 47  
On switches ..... 490
- Failures:  
Avoiding light-out signal ..... \*385, \*494
- False Operation:  
Crossing signals ..... \*166
- Fansteel Metallurgical Corp.:  
Balkite rectifiers and transformers ..... \*37  
Fansteel Products Company changes name to ..... 548
- Federal Crossing Protection:  
Program ..... †431
- Federal Funds:  
Highway crossing protection ..... †373
- Federal Grade Crossing Work:  
Rules for ..... 430
- Federal Highway Improvement Program:  
Highway-railroad crossing signals ..... †151
- Federal Program Grade Crossing Protection:  
Hope revived for ..... †531
- Flasher Relays:  
For crossing signals ..... \*267  
Peerless Mfg. Corp. .... \*155
- Flashlights:  
Protection for ..... \*594  
Flashing Aspects ..... 602
- Flashing-Light Crossing Signals:  
Aligning ..... \*596
- Flashing Light Signals:  
Circuit for ..... 380, \*492
- Float Meter:  
Electric Storage Battery Company ..... \*155
- Florida East Coast:  
Accident at drawbridge ..... 260
- Fouling Jumpers:  
Construction ..... 218
- Frost:  
On commutators ..... 274
- G**
- General Cable Corp.:  
Booklet entitled conductor data ..... 548  
Leaflet describing Mid-Rip lamp cord ..... 332  
Trade publication ..... 278
- General Electric Company:  
Air-cooled transformers for railway signal service ..... 388  
Automatic time switches ..... \*584  
Booklet "Cable Accessories" ..... 332  
Bulletin on paper-insulated cable ..... 548  
Cable compounds for insulating and sheathing cable ..... 388  
Capacitor units ..... \*158  
Electric speedometer for locomotives ..... \*376  
Improved lightning arresters ..... \*153  
Leaflet describing Thyrite lightning arresters ..... 332  
Production of new weather-proof line wire ..... 548  
Railway signal wire ..... 50  
Signal transformers ..... \*156  
Trade publication on Pyranol capacitors ..... 548
- General Railway Signal Company:  
Ground detector relay for instantaneous and automatic detection ..... \*158  
Primary battery cut-in relay ..... \*153  
Series-line approach lighting relay ..... \*215  
Snubbing rectifier for 2A signal ..... \*157  
Power-transfer relay ..... \*158  
Trade publication pamphlet 531 ..... 102
- Glasses:  
Purple signal ..... 434, 539
- Goggles:  
Combination protective ..... \*534
- Gould Storage Battery Corp.:  
Heavy duty battery ..... \*644  
Trade publication ..... 496
- Grade Crossings:  
Engineers discuss ..... 209  
Rules for Federal work ..... 430
- Grade Crossing Projects:  
Favored by Roosevelt ..... 278
- Grade Crossing Protection:  
Federal allotments for ..... 330  
See crossing protection and crossing signals
- Grade Crossing Work:  
Federal rules altered ..... 546
- Ground Detector Relays:  
For instantaneous and automatic detection ..... \*158
- Ground Rods:  
Testing ..... \*162
- Grounding:  
Cable sheaths ..... 222
- Gulf Coast Lines:  
Consolidation of interlockings at Houston, Tex. .... \*312
- H**
- Half-voltage keeps iron hot ..... 152
- Hanlon & Wilson Co.:  
Railroad Repair & Supply Co., appointed agents ..... 660
- Heavy-Duty Cell:  
See Batteries
- Highway Crossing, see Crossing signals
- High Speed Trains:  
Safety of ..... 193  
Signaling for ..... †210
- High-Speed Transportation:  
Development in ..... 278
- I**
- Illinois Central:  
Low-voltage capacitors for power-factor correction ..... \*135  
Indexing relay cabinet ..... \*266
- Indicators:  
Removal of switch ..... 161
- Indications:  
Switch-repeater ..... \*533
- Inspections:  
Engineering ..... †531  
Switch circuit controllers ..... 442
- Institution of Railway Signal Engineers:  
Proceedings issued ..... 50
- Interborough Rapid Transit Company:  
Construction ..... 606
- Interlocking:  
A-c-primary system for automatic on M. P. .... \*251  
Automatic on Brooklyn-Manhattan Transit ..... \*25  
Automatic involves highway crossing signals ..... \*305  
Automatic on the Philadelphia Elevated ..... \*415  
Automatic involving spring switches ..... \*472  
Automatic on C. G. W. .... \*635  
Automatic in Texas on T. & N. O. and I-G. N. .... \*587  
Automatic on Wabash ..... \*33  
Combination on the B. & M. .... \*631  
Consolidation of ..... 312  
Consolidation at Houston, Tex. .... \*312  
Depression operation of ..... \*303  
Electric at drawbridge near New Orleans ..... \*191  
Electric in snowsheds on S. P. .... \*256  
Electric plant on Santa Fe ..... \*23  
Improving automatic ..... †482  
Mechanical plant replaced by electric ..... \*623  
New in Chicago loop ..... \*84  
N. Y. C. extends South Bend ..... \*295  
N. Y. C. reconstructs interlocking destroyed by fire ..... \*525  
Penn-Read, Seashore ..... 519  
Remote control on T. & N. O. .... 513  
Santa Fe electric at Amarillo, Tex. .... \*515  
Semi-automatic at crossing on Alton Southern Pacific 1.5 miles long ..... \*201  
Southern Pacific Suisun Bay Bridge ..... \*197  
Spring switch replaces mechanical ..... \*580  
Western Indiana installs all-relay ..... \*420
- Interlocking Equipment:  
Disposition of mechanical ..... 272
- Interlocking Machines:  
Electric switch-repeater indications ..... \*533
- International-Great Northern:  
Automatic interlocking in Texas ..... \*587  
Consolidation of interlocking at Houston, Tex. .... \*312  
Crossing signals ..... \*200
- Interstate Commerce Commission:  
Transportation legislation in Congress ..... 102
- Iowa Railroad Commission:  
Adopts uniform crossing signals ..... 83  
Crossing accidents in Iowa ..... 138
- J**
- Junction Boxes:  
U. S. & S. Co. new type ..... 154
- K**
- Kinks:  
Bond-wire bender ..... \*214  
Bootleg assembly ..... \*214  
Break-arm substitute ..... \*484  
Chisel for bonding ..... 534  
Combination tool for signalman ..... 594  
Cone clutch tool for T-2 signal ..... \*533  
Electric timer ..... \*90  
Handy trouble light ..... 375  
Indexing a relay cabinet ..... \*266  
Insulated end wrench ..... \*38  
Locating defective bond wires ..... \*319  
Lock washer for bolts ..... \*319  
Measuring the set in cranks and jaws ..... \*643  
Meter range selector ..... \*267  
Method of handling heavy cable ..... \*484  
Nickel plating of signal apparatus ..... \*375  
Portable paint sprayer ..... \*484  
Portable relay bracket ..... \*533  
Protection for flashlight ..... \*594  
Relay hanger ..... \*594  
Relay repair table ..... \*595  
Repeating reverse signal indication ..... \*643  
Shielding exploring coil ..... \*266  
Soldering copper for small work ..... 534  
Solder tip for electric iron ..... 90  
Support for switch box lid ..... \*433  
Stand-by coder for TK relays ..... \*319  
Switch box tool ..... \*38

Kinks: (Continued)		Under-voltage relay.....	*160	Rail Braces:	
Switch-repeater indications.....	*533	Wall telephone.....	*595	Wrench for .....	*433
Testing machine for mechanical switchman .....	*152	Waterbury high-amperage primary cells .....	*156	Rail-end Check:	
Tool for wrapping pole stubs.....	*433	Wedge-on conductor terminal.....	*485	Bridge .....	191
Wing-nut wrench.....	*90	Wire sleeve and roller.....	*89	Checking on drawbridges .....	†211
Wrench for rail braces.....	*433			Drawbridge .....	199
		New York Central:		Railroad Consolidation:	
<b>L</b>		Aerial cable installed at bridge at Albany .....	*529	Few systems favored by Ralph Budd .....	224
Lamps:		Construction .....	102	Railroad Crossings:	
Checking signal.....	600	Extends South Bend interlocking.....	*295	Trap circuits at .....	*645
Night intensity of signal.....	324, 440	Improved track circuit for light-weight equipment .....	*363	Railroad Retirement Board:	
Use of marker.....	162	Multiple-block signaling.....	*407	Appointment of members .....	658
Lehigh Valley:		Reconstruct interlocking destroyed by fire .....	*525	Range Selector:	
Cab signaling on.....	469			Meter .....	*267
Letter to the Editor:		New York, New Haven & Hartford:		Reading:	
Comments on multiple-aspects.....	374	Collision at Westport, Conn. ....	640	Tests two kinds of battery standby .....	*359
Crossing protection situation.....	212	New York Railroad Club:		Reclaiming:	
D-c. track circuits.....	264	Signal night for .....	330	Worn switch-point lugs .....	*644
Highways vs. railroads.....	593	Nickel Plating:		Recording Chart:	
Light:		Signal apparatus.....	*375	Automatic plant on Boston & Maine .....	27
Handy trouble.....	375	Night Check of signal lights.....	438	Rectifiers:	
Night check of signal.....	438	Northern Pacific:		Applications in railway signaling.....	*261
Light-Out Signal Failures:		Short-time running causes wreck.....	658	Balkite .....	*37
Avoiding .....	*385, *494	Signal repair shop equipment .....	*70	Feed for track circuit .....	363
Lightning Arrester:		Street crossing protection.....	*203	Snubbing for 2A signal .....	*157
G. E. improved.....	*153			Relays:	
Locks:		<b>O</b>		A-C. flasher .....	*155
Facing-point on switches.....	490	Ohio Brass Company:		Advantages of modern .....	436
Lock Washer:		Insulating bushing.....	*156	Electric timer for time-element .....	*90
For bolts.....	*319	Junction box pothead.....	*644	Flasher for crossing signals .....	*267
London & North Eastern:		OSing Devices:		G. R. S. power-transfer .....	*158
Construction .....	332	Automatic used by the Rock Island .....	*263	Ground detector for instantaneous and automatic detection .....	*158
Construction .....	170			Hanger .....	*594
Mechanical color-light signals in England .....	*86	<b>P</b>		Indexing cabinet .....	*266
Long Switch Points:		Paint Sprayer:		Large-size houses .....	*154
Operating .....	*442	Portable .....	*484	Modern track lengthens primary battery life .....	*298
<b>M</b>		Paper Insulated Cable:		Primary battery cut-in .....	*153
Maintainers:		General Electric bulletin.....	548	Series-line approach lighting .....	*215
Tool houses.....	*328, *438	Parkway Cable:		Shopping schedules .....	216
Marker Lamps:		Leaving slack in.....	217	Snubbing for semaphores .....	*160
Use of .....	162	To light signals .....	46	Stand-by coder for TK .....	*319
Maintenance:		Peerless Manufacturing Corporation:		Use of modern D-c. on track circuits .....	*73
Switch box.....	†531	A-C. flasher relay.....	*155	U. S. & S. under-voltage .....	*160
Materials Standards Index:		Snubbing relay for semaphores.....	*160	Relay Bracket:	
American Society for Testing Materials .....	102	Trade publication.....	496	Portable .....	*533
Mechanical Interlockings:		Pennsylvania:		Relay Houses:	
Disposition of equipment.....	272	Coded track-circuit signaling.....	*245	Large size .....	*154
Mechanical Switchman:		Increases signal maintenance expenditures .....	224	Relay Racks:	
Testing machine for.....	*152	Respacing automatics on.....	*196	Sectional conduit .....	192
Meters:		Rudd-Rhea signaling report.....	*424	Relay repair table .....	*595
Float .....	*155	Truck derails passenger train.....	593	Remote Control:	
Range selector.....	*267	Pennsylvania Public Service Commission:		On Seaboard .....	*527
Minneapolis & St. Louis:		Crossing accidents .....	215	On the T. & N. O. ....	*513
Accident at automatic plant with C. R. I. & P. ....	475	Philadelphia Rapid Transit Company:		Repair Shop:	
Missouri-Kansas-Texas:		Automatic interlocking.....	*415	Santa Fe signal at San Bernardino, Cal. ....	*353
Collision on .....	517	Test board for C.T.C. units.....	*207	Signal equipment on N. P. ....	*70
Missouri Pacific:		Test panel for signal shop .....	*638	Signal and relay on Chicago Rapid Transit .....	*417
A-c.-primary system for automatic interlocking .....	*251	Pennsylvania-Reading Seashore:		Repair Table:	
Construction .....	496	Signaling rehabilitation on.....	*518	Relay .....	*595
Consolidation of interlockings at Houston, Tex. ....	*312	Pittsburgh & Lake Erie:		Replacements:	
Motor Cars:		C.T.C. installed on.....	*626	Storage battery .....	548
Starting in winter.....	650	Construction .....	50	Reports:	
Multiple Aspects.....	365	Plug-Type Bond Wires:		Rudd-Rhea signaling of Pennsylvania .....	*424
Comments on .....	374	Re-use of .....	324	Reverse Signal Indication:	
Multiple Aspect Signaling.....	†817	Poles:		Repeating .....	*648
N. Y. C. ....	407	Life of treated .....	69	Roller-Smith Co.:	
Multiple-Block Signaling:		Raising a signal.....	196	Announces appointment of Harris-Green Co., as agent .....	660
New York Central.....	*407	Poles Lines:		Roundel Protector:	
		For automatic signaling.....	†265	Western Railroad Supply Company..	*160
<b>N</b>		Pole Stubs:		Route Selector .....	27
National Railway Appliance Association:		Tool for wrapping .....	*438	Rudd-Rhea Signaling Report of the Pennsylvania .....	*424
Sixty companies already signed up for Exhibit.....	658	Pothead:		<b>S</b>	
New Devices:		Junction box.....	*644	Safety:	
A-c. flasher relay.....	*155	Power-Factor Correction:		High speed trains .....	198
Automatic time switches.....	*534	Low-voltage capacitors for.....	*135	Radio message on crossing .....	47
Balkite rectifiers and transformers .....	*89	Power-Off Lights:		Safety Mindedness:	
Bootleg outlet for cable .....	*89	At C.T.C. machines.....	218	Cultivate .....	102
Capacitor units.....	*158	Primary Battery:		St. Louis-San Francisco:	
Coded track circuit control.....	*157	A-c. primary on Boston & Maine .....	631	Construction .....	226
Combination goggles.....	*534	A-c. primary on Chicago & North Western .....	579	Construction .....	606
Edison heavy-duty cell.....	*154	A-c. primary on Missouri Pacific.....	251	Track relays lengthen primary battery life .....	*298
Edison primary cell.....	*37	A-c. primary on Pittsburgh & Lake Erie .....	626	Seaboard Air Line:	
Electric speedometer for locomotive .....	*376	Costs being reduced on Santa Fe.....	*463	Highway crossing signals in Carolina .....	*127
Flasher relay for crossing signals.....	*267	Cut-in relay .....	*153	Remote-control on .....	*527
Float meter.....	*155	In cold weather .....	384	Selector:	
Ground detector relay for instantaneous and automatic detection .....	*158	Modern track relays lengthen life.....	*298	Switch-stand on T. & N. O. ....	87
Heavy duty battery.....	*644	Primary Cells:		Semaphores:	
Improved lightning arresters.....	*153	Edison heavy-duty .....	*154	Snubbing relay for .....	*160
Improved test box for crossing signals .....	*376	Improved primary battery element.....	*37	Shopping Schedules:	
Improved testing set.....	*267	Waterbury high-amperage .....	*156	Relay .....	216
Insulating bushing.....	*156	Protector:		Signal Indications:	
Junction box pothead.....	*644	Roundel .....	*160	Repeating reverse .....	*643
Large-size relay houses.....	*154	Pyranol Capacitors:		Signals:	
New process for producing zinc-coated wires.....	*89	G. E. bulletin on Type-CE .....	548	At spring switches .....	166
New type junction boxes.....	154	Public Utilities Commission of Maine:		Automatic increase track capacity and safety on Erie .....	*300
Power-transfer relay .....	*158	Approves crossing signals .....	102	Braking distance with .....	*326
Primary battery cut-in relay.....	*153	Whistling in city justified .....	278	Burlington destroyed by floods in Nebraska .....	*358
Roundel protector.....	*160	Public Works Administration Program:		Cab and A. T. C. on U. P. streamliner .....	*150
Series-line approach lighting relay.....	*215	Crossing signals in Florida.....	*129	Cab on Lehigh Valley .....	469
Signal transformers.....	*156	Crossing signals on the Southern.....	*131	Call-on involved in accident .....	314
Snubbing rectifier for 2A signal.....	*157	Highway crossing signals in Carolina .....	*127	Coded track-circuit on Pennsylvania .....	*245
Snubbing relay for semaphores.....	*160	Highway-railroad crossing signals.....	†151	Cone clutch tool for T-2 .....	*533
Telephone for outdoor service.....	*485	Pullman Standard Car Mfg. Co.:		Construction hits new low in 1934..	*17
Test equipment for highway crossing signals.....	*159	U. P. new train to be delivered in March .....	660	Crossing bells at flasher .....	596
		<b>R</b>			
		Rails:			
		Accident caused by broken.....	86		
		Locating broken .....	*268		

Signals: (Continued)

Electric storage battery edition on American ..... 380

For higher train speeds ..... 194, 1210

Four-aspect on Erie ..... 300

Highway Crossing, see Crossing Signals

Highway crossing on N. P. .... \*203

Holding plumb on fills ..... \*654

In dust storms ..... 320

Mechanical color-light in England... \*86

Multiple-aspect ..... \*1317

Multiple-block ..... \*407

Obsolescence in ..... \*1431

On Boston & Maine at Waltham, Mass. .... \*477

On route of C. & N. W. "400" ..... \*573

Parkway cable to light ..... 46

Pole lines for automatic ..... †265

Problem in spacing for higher train speeds ..... †592

Reading tests two kinds of battery standby ..... \*359

Rectifier applications in railway ..... \*261

Rehabilitation on Pennsylvania-Reading Seashore ..... \*518

Respacing automatics on Pennsylvania ..... \*196

Rudd-Rhea report of Pennsylvania... \*424

Snubbing rectifier for 2A ..... \*157

Statistics ..... 355

Statistics for 1935 ..... 444

Stopping distance and spacing ..... \*571

Use of cab ..... 218

25-Year review of English ..... 639

Signal Aspects: Modern on B. & M. .... \*365

Signal Construction Programs: Boston & Maine ..... \*410

Signal Failures: Avoiding light-out ..... \*385, \*494

Signal Glasses: Purple ..... 434, 539

Signal Lamps: Checking ..... 600, 656

Night intensity of ..... 324, 440

Night check of ..... 438

Signal Maintenance: Pennsylvania increases expenditures ..... 224

Signal Poles: Raising of ..... 196

Signal Power Lines: Capacitors for ..... †88

Signal and Relay Repair Shop: Chicago Rapid Transit ..... \*417

Equipment on N. P. .... \*70

Santa Fe at San Bernardino, Cal. .... \*353

Test panel for ..... \*638

Signal Industry: X-Rays in the ..... \*77

Simplex Wire & Cable Co.: Anhydrex rubber insulation ..... 50

Slack: Leaving in parkway cable ..... 217

Sleeves: Fabric, for ends of insulated wires beyond pot-head ..... 24

Slot-Arms: "Chattering" ..... 272

Snow Sheds: Electric interlocking on S. P. .... \*256

Snubbing Rectifier: For 2A signal ..... \*157

Snubbing Relays: For semaphores ..... \*160

Solder Tip: For electric iron ..... 90

Soldering Copper: For small work ..... 534

Soldering Iron: Electric tip for ..... 90

Half-voltage keeps iron hot ..... 152

Southern: Crossing signals on the ..... \*131

Southern Pacific: Depression operation of interlocking \*303

Electric interlocking in snowsheds \*256

Interlocking 1.5 miles long ..... \*201

Interlocking involves highway crossing signals ..... \*305

Interlocking on Suisun Bay Bridge \*197

Selective speed control for crossing signals ..... \*67

Traffic-type crossing signals in El Paso ..... \*253

Speed Control: Selective for crossing signals ..... \*67

Speedometer: Electric for locomotives ..... \*376

Sprayer: Portable paint ..... \*484

Spring Switches: Automatic interlocking involving .... \*472

F. P. L. adjustment ..... 47

On the Union Pacific ..... \*361

Replaces mechanical interlocking... \*580

Signaling at ..... 166

Testing machine for mechanical ..... \*152

State of Illinois: Signal installations with Federal aid funds ..... 660

Statistics: Signaling ..... 355

Signaling, 1934 ..... \*17

Signaling for 1935 ..... 444

Stiles, T. George Company: Bootleg outlet for cable ..... \*89

Test equipment for highway crossing signals ..... \*159

Test box for crossing signals ..... \*376

Storage Batteries: Heavy duty cell ..... \*644

Replacements ..... 588

Trays ..... 47

Streamliner: Cab signals and A. T. C. on U. P. .... \*150

Streamlined Train: Three-car U. P. .... 102

Suisun Bay Bridge: Interlocking on S. P. .... \*197

Switches: Automatic time ..... \*534

Facing-point locks on ..... 490

See spring switches

Switch Boxes: Tool ..... \*38

Switch Box Lid: Support for ..... \*433

Switch Box Maintenance ..... †531

Switch Circuit Controllers: Inspecting ..... 442, 492

Switch Indicators: Removal of ..... 161

Switch Machines: Cable connections to switch machines ..... \*94

Electric on T. & N. O. .... \*87

Switch-Point Lugs: Reclaiming worn ..... \*644

Switch Points: Operating long ..... \*442

Switch-Repeater Indications ..... \*533

Switch-Stand Selector ..... \*87

**T**

Taylor-Wharton Iron & Steel Co.: Operates directly William Wharton, Jr. & Company, Inc. .... 548

Telephone: American Automatic Electric Sales Co. .... \*595

For outdoor service ..... \*485

Train-orders by ..... 496

Terminals: Wedge-on conductor ..... \*485

Test Board: For C. T. C. units ..... \*207

For signal shop ..... \*633

Test Box: Improved for crossing signals ..... \*376

Test Equipment for Code apparatus ..... 372

Highway crossing signals ..... \*159

Testing Machine: For mechanical switchman ..... \*152

Testing Set: Improved ..... \*267

Portable A-c-D-c. .... \*588

Texas & New Orleans: Automatic interlocking in Texas ... \*587

Remote control near Houston, Tex. \*513

Switch-stand selector ..... \*87

Traffic-type crossing signals ..... \*28

Traffic-type crossing signals in El Paso ..... \*253

Texas & Pacific: Centralized traffic control ..... \*132

Collision on ..... 483

Texas Pacific-Missouri Pacific Terminal: Electric interlocking at drawbridge \*191

Thomas & Betts Company: Wedge-on conductor terminal ..... \*485

Timer: Electric ..... \*90

Time-sequence route selector ..... 26

Time Switches: Automatic ..... \*534

Tools: Combination for signalman ..... \*594

Cone clutch for T-2 signal ..... \*533

For wrapping pole stubs ..... \*433

Tool Houses: Maintainers' ..... \*328, \*438, \*604

Switch box ..... \*338

Track Circuits: Coded control ..... \*157

Improved for light-weight equipment ..... \*363

Letter to Editor ..... 264

Use of modern d-c. relays ..... \*73

Trade Publication: Air-cooled transformers for railway signal service ..... 388

Anhydrex rubber insulation ..... 50

Cable compounds for insulating and sheathing cable ..... 388

Continental-Diamond Fibre Co., Di-lecto ..... 548

Exide batteries for railway service 548

General Cable Corporation ..... 278, 332

General Cable Corp. conductor data 548

G. E. bulletin paper-insulated cable 548

General Electric Company ..... 332

G. E. new weather-proof line wire 548

G. E. bulletin Pyranol capacitors ... 548

G. R. S. pamphlet 531 ..... 102

Highway crossing signals ..... 496

New pocket manual of "Megger" practice ..... 388

Plante-paste storage batteries ..... 496

Railway signal wire ..... 50

"Union" steel relay houses ..... 388

Union Switch & Signal Co. .... 332, 608

Train-Orders: By telephone ..... 496

Trap Circuit: At railroad crossings ..... \*645

Transformers: Balkite ..... \*37

Booster on signal lines ..... 544

General Electric Company ..... \*156

G. E. signal ..... \*156

Transportation Legislation: In Congress ..... 102

Trays: Storage battery ..... 47

Treated Poles: Life of ..... 69

Trouble Light ..... 375

**U**

Union Pacific: Cab signals and A. T. C. on stream- liner ..... \*150

New train to start in April ..... 660

Spring switch on the ..... \*361

Streamliner filled to capacity during first month ..... 226

Three-car streamlined train ..... 102

Union Switch & Signal Company: Booklet "Operating Trains Without Train Orders" ..... 332

Bulletin "Lifting Slow Orders Pays Dividends" ..... 608

Coded track circuit control ..... \*157

Large-size relay houses ..... \*154

New type junction boxes ..... 154

"Union" steel relay houses ..... 388

Under-voltage relay ..... \*160

**W**

Wabash: Automatic interlocking ..... \*33

Interlocking at crossing on Alton \*356

Washers: Lock for bolts ..... \*319

Waterbury Battery Company: High-amperage primary cells ..... \*156

Weather-proof Line Wire: G. E. announced production of ..... 548

Western Pacific: Depression operation of interlocking \*803

Western Railway Club: Safety of high speed trains ..... 193

Western Railroad Supply Co.: Agents for automatic crossing gates 548

Illinois signal installations made with Federal Aid Funds ..... 660

Roundel protector ..... \*160

Western Society of Engineers: Discuss grade crossings ..... 209

Weyerhaeuser Pole Company: Organized ..... 278

What's the Answer?: Advantages of modern relays ..... 486

Aerial cable versus open line ..... 542

Aligning flashers ..... \*596

Avoiding frost on commutators ..... 274

Avoiding light-out signal failures ..... \*385, \*494

Booster transformers on signal lines 544

Braking distance with signals ..... \*326

Cable connections to switch machines ..... \*94

"Chattering" slot-arms ..... 272

Checking signal lamps ..... 656, 600

Circuits for crossing signals ..... 440

Circuit for flashing light signals ..... 380, \*492

Crossing bells at flasher signals 596, 656

Disposition of mechanical interlocking equipment ..... 272

Facing-point locks on switches ..... 490

F. P. L. adjustment on spring switches ..... 47

False operation of crossing signals ..... \*98, \*166

Flashing aspects ..... 602

Fouling jumper construction ..... 218

Grounding cable sheaths ..... 222

Holding signals plumb on fills ..... \*654

Inspecting switch circuit controllers ..... 442, 492

Installation of bond wires ..... 42, 94

Leaving slack in parkway cable ..... 217

Locating broken rails ..... \*268

Maintainers' tool houses \*328, \*438, \*604

Marker lamps ..... 162

Night check of signal lights ..... 438

Night intensity of signal lamps 324, 440

Operating long switch points ..... \*442

Parkway cable to light signals ..... 46

Power-off lights at C. T. C. machines ..... 218

Primary batteries in cold weather ... 334

Purple signal glasses ..... 434, 539

Relay shopping schedules ..... 216

Removal of switch indicators ..... 161

Re-use of plug-type bond wires ..... 324

Signaling at spring switches ..... 166

Signaling in dust storms ..... 320

Starting motor cars in winter ..... 650

Storage battery replacements ..... 538

Storage battery trays ..... 47

Testing ground rods ..... \*162

Trap circuits at railroad crossings 645

Western Electric Telephone: For outdoor service ..... \*485

Whistling: In city justified ..... 278

Wing-Nut Wrench: For primary-battery terminals ..... \*90

Wig-Wags: Approved for P. W. A. projects ..... 36

Willson Products, Inc.:  
 Combination goggles ..... \*584  
 Wire Sleeve and Roller:  
 Anaconda Wire & Cable Co. .... \*89  
 Wires:  
 New process for producing zinc-coated ..... \*89

Re-use of plug-type bond ..... 324  
 Wrapping Pole Stubs:  
 Tool for ..... \*433  
 Wrenches:  
 For rail braces ..... \*433  
 Insulated end ..... \*38  
 Wing-nut ..... \*90

X  
 X-Rays:  
 In the signal industry ..... \*77  
 Z  
 Zinc-Coated Wires:  
 New process for producing ..... \*89

## Personal Mention

[Photographs are indicated thus\*. Obituaries are indicated thus †]

Anderson, Walter.....	444	Croft, Chester A.....	†660	Pflasterer, G. S.....	*†278
Ashley, R. D.....	*†332	Dinkel, Paul, Jr.....	444	Roche, William P.....	332
Atchison, A. Clyde.....	606	Florence, S. R.....	660	Salmanson, W. G.....	496
Bagley, F. H.....	*606	Gullett, F. E.....	548	Sauer, Herbert F.....	330
Bangert, Paul J.....	496	Gurley, L. R.....	548	Scott, Henry S.....	332, *388
Bartley, Ray N.....	608	Henricks, C. W.....	226	Scott, Wayne L.....	606
Beedle, Harry W.....	444	Hullinger, O. M.....	*226	Shaw, Elmer.....	608
Biggers, C. W.....	608	Johansen, John D.....	†608	Smith, A. O.....	660
Booss, F. W.....	388	Kelley, C. W.....	496	Snyder, A. H.....	278
Brown, George B.....	606	Leonard, W. D.....	†608	Swonger, W. A.....	226
Burkett, R. H.....	496	Mason, Carl T.....	*608	Underhill, J. D.....	330
Cameron, C. H.....	50	Massie, Jesse F.....	†608	Wardwell, Fred W.....	660
Chamberlain, Kenneth.....	606	Miller, Earl.....	496	Westermarck, N. J.....	†608
Chatten, F. L.....	496	Miskelly, Samuel.....	*608	Williams, J. F.....	496
Clark, A. W.....	444	Moak, W. V.....	496	Willson, Thomas George.....	*226
Claus, W. H.....	332	Mooney, John.....	496	Wilson, A. J.....	†660
Cobb, R. M.....	660	Morrison, William.....	*†660	Yocum, A. H.....	*†444
Collins, James M.....	444	O'Brien, C. E.....	226		
Combs, Harry.....	†496	Parnell, Loy.....	†496		

## Index to Authors

[Illustrated articles are indicated thus\*]

Abell, W.....	268, 276, 385,	650	Grundy, C. F.....	*46,	324	Ryan, F. J.....	*276
Abernethy, H. D.....	42		Guigue, D.....	44,	196	Schaefer, E. J.....	*166,
Allen, John B.....	*433		Hartman, W. N.....	217		Schroff, E.....	380
Ambach, E. T.....	47,		Herbert, John F.....	*643		Schubert, J. H.....	542
161, 216, 217, 218, 222, 272,	*375		Howson, Elmer T.....	193		Schwendt, B. J.....	*94, 264, 434,
Armstrong, T.....	*38		Jacobs, Harry M.....	544		Seifert, T. C.....	42
Ash, P. P.....	*650		Jensen, Otto M.....	218		Shaller, B. M.....	*484
Ashley, R. D.....	*96,		Johnson, J. A.....	320,	*385	Sheets, R. A.....	94, 162, 274, *494,
Bagley, F. H.....	44, 161	488	Jones, C. C.....	*433		Smith, Carl T.....	*268, 274, *319,
Baird, M. A.....	216		Jones, I. S.....	*100		Smith, W. R.....	*533,
Beck, G. E.....	46,	274	Kearton, T. H.....	167		Stahl, W. A.....	*200, *312,
Bender, Fred W.....	*523		Kelloway, C. J.....	44,	600	Stallknecht, F. S.....	384, 440
Bentley, Frank W.....	*594		Kempe, E. M.....	324		Starck, P. A.....	*433, 492,
Birchall, J.....	*492		Kolb, E. W.....	*77		Stewart, A. W.....	*214,
Brashares, H. E.....	166,	212	Linn, F. A.....	*135		Stilwell, W. H.....	*152, 161, 167,
Breisch, E. W.....	538		Luse, E. B.....	600		Stoltz, C. F.....	47
Brown, B. O.....	*267		MacKeen, Jas. E.....	*38,	375	Stradling, E. G.....	162
Burgin, E. A.....	*319		Manuel, W. N.....	434		Stryker, C. E.....	544
Caley, G. H.....	46		McCormick, C. B.....	539		Stuart, F. C.....	434
Cameron, C. H.....	46		Meek, R. W.....	218		Tattersall, A. E.....	*86
Camper, R. Kent.....	*533		Moore, A. Davis.....	*90, *207,	*638	Taylor, C. A.....	47, 167,
Carpenter, L. E.....	218		Moore, G. E.....	*533		Thomas, G. K.....	320
Clark, Leslie.....	*484		Moore, R. D.....	162, *328, 490,	602	Tillett, C. H.....	656
Claus, W. H.....	656		Morgan, H. G.....	438		Tizzard, Jr., T. W.....	*588
Coker, M. R.....	*214		Muller, J. P.....	*326, 384,	542	Todd, E. E.....	*90
Coley, N. B.....	440,	*594	Neff, W. B.....	650		Tomkins, O. S.....	442
Cone, LeRoy.....	*100		Noble, S. E.....	*81,	*578	Turner, A. G.....	650
Cone, Vernon C.....	*600		Noell, D. M.....	162		Uhr, I. A.....	486
Corcoran, J. J.....	385		Nutting, A. G.....	*602		Unger, O. R.....	654
Dickinson, B. F.....	*162,	324	Oppelt, J. H.....	167,	217	Vallee, A.....	46
Dryden, G. H.....	222		Orr, H. H.....	47		Watkins, R. A.....	90
Dunham, C. A.....	47		Parkinson, J. A.....	*73		Weatherby, E. P.....	324,
Eberle, H. E.....	*266, 434,	656	Peter, L. H.....	*261		Welsh, Wilmer.....	544
Eck, W. J.....	44, 218, 490, 596,	604	Pfiegling, F. W.....	320		Wesson, E. G.....	492
Elsworth, R. B.....	96, 222, 272, *363,	*407	Post, W. M.....	490		Whitehorn, A. R.....	486
Follett, W. F.....	272		Price, W. F.....	*472		Wiegand, F. B.....	216,
Fuller, D. W.....	442		Pry, E. B.....	47		Williams, C. A.....	*98, *438, *590,
Gault, P. M.....	218, 272, 490, 596,	*602	Reich, E. W.....	*596		Workman, R. B.....	44
Geiger, W. H.....	*266		Reich, W. S.....	*534		Wyant, L.....	96, 217, *263,
Gemmell, A.....	*643		Roberts, A. A.....	*25		Zane, W. F.....	194, 539,
Gensheimer, J. S.....	217		Rodgers, S. W.....	222		Ziehke, G. A.....	47
George F.....	*98,	*645	Rudd, A. H.....	46,	374		